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COMMONWEALTH OF AUSTRALIA

PATENT SPECIFICATION

127,432

Application Date: 3rd Apr., 1946.

No. 2,586/46.

Applicant (Actual Inventor)	FRANK DAVID MEADOWS.
Application and Provisional Specification	Accepted, 13th April, 1948.
Complete Specification after Provisional Specification	Lodged, 25th January, 1947.
Complete Specification open to Public Inspection —Sec. 38A of the Patents Act 1903-1946	3rd April, 1947.
Complete Specification	Accepted, 13th April, 1948.
Acceptance Advertised (Sec. 50)	29th April, 1948.

Class 54.7

Drawing attached.

COMPLETE SPECIFICATION

"Improvements in or relating to means for connecting the edges of adjacent glass sheets or other panels."

I, FRANK DAVID MEADOWS, of 28 Eildon Road, St. Kilda, in the State of Victoria, Commonwealth of Australia, Glass Merchant, hereby declare this invention and the manner in which it is to be performed, to be fully described and ascertained in and by the following statement:—

This invention relates to means for connecting the edges of adjacent sheets or panels, such as translucent or transparent sheets, as for instance glass panels in windows, display counters, show cases or the like, and opaque panels, such as timber or metal sheets or plates used in doors, partitions, packing crates, and the like.

Now the principal object of this invention is to provide connecting means of simple and durable construction, whereby the edges of sheets or panels disposed in angular relation or in extended alignment may be securely clamped and held together and which, moreover, may be adapted for at-

tachment of brackets, stays, corner pieces, and like metallic fittings.

Generally, the invention is adaptable for connecting the edges of sheets or panels disposed in angular relation or in straight, flush, or extended alignment.

A further object of the invention is the provision of connecting means for the above stated purpose, which may be economically produced from light gauge sheet metal by the use of appropriate folding dies.

With the above stated objects in view, there is provided according to this invention, means for connecting the ends or edges of adjacent glass or other panels comprising a tubular member composed of sheet metal and having longitudinal angularly related or aligning seatings or flanges, and an associated clamping member or strip having corresponding flanges to form with each of the first mentioned seatings or

flanges, a groove or channel in which the ends or edges of the panels are clamped by the attachment of said member or strip to the tubular member.

5 In one practical arrangement of the invention the tubular member is formed in one piece from a length of metallic strip and having a substantially medial portion of single thickness co-extensive with flat
10 folded sides forming the seatings or flanges from which the sides arcuately extend towards each other in overlapped arrangement to form with the medial portion and between said seatings or flanges, the tubular
15 portion of said member.

The side or medial portion of the strip opposite the overlapped sides may be bent at an angle corresponding with the inclination of angularly related sheets or panels,
20 to appropriately align the seatings for the reception of said sheets or panels. Alternatively, the side or medial portion of the metal strip positioned oppositely to the overlapped sides may be straight with the
25 longitudinal flanges or seatings disposed in alignment, whereby the connecting means is adapted to associate sheets or panels in extended alignment.

In order that the clamping strip or member and brackets, stays, and other fixtures
30 may be secured to the connecting means, a metallic or wooden core is inserted into the tubular portion of the tubular member, to which the fixtures may be secured by screws or like fastenings. Such a core when inserted through the tubular portion prevents
35 spreading or distortion and provides a convenient binding member to which the overlapped sides of the tubular portion may be secured by screws or other suitable fastenings. Alternatively, the overlapped sides
40 may be connected together by pinning or spot welding or by the engagement of tongues formed on one of the overlapped edges with complementary slots in the other
45 of said edges.

The accompanying drawings depict a practical arrangement of the connecting means according to this invention.

50 In these drawings:—

Fig. 1 is a perspective view of the connecting means employed for joining an angularly related pair of panels.

55 Fig. 2 is a section taken on line 2-2 of Fig. 1.

Fig. 3 is a detailed end elevation of the

tubular metal strip forming part of the connecting means,

Fig. 4 is an end elevation of the connecting means joining a pair of aligning panels.

Referring to Figs. 1 to 3 of the drawings to form the tubular member indicated generally at 5, a metal strip of required length,
5 width and gauge or thickness is bent at right angles along the central longitudinal plane to form two portions 6 - 7 at right
10 angles, the apex or corner 8 between the two portions being appropriately curved or radiused.

At substantially equal distances on opposite sides of the longitudinal bend the metal strip is folded inwardly to lie flatly
15 upon itself for required distances, to form two seatings 9 - 10 disposed at right angles.

The opposite longitudinal edges 11 - 12 of the strip are then bent in arcuate formation and are overlapped as at 13 to form
20 in co-operation with the radiused corner 8 of the central band, a longitudinal tubular portion 14 from which the seatings 9 - 10 project at right angles in substantially tangential arrangement as clearly illustrated in Fig. 3.

The seatings 9 - 10 in the finished form of the tubular member or strip form continuous flanges for the length of the strip.
30

Through the longitudinal tubular portion 14 there is inserted a cylindrical metal rod 15 to which the overlapped edges 11 - 12 may be secured by screws passed at spaced
35 intervals through aligned holes in the overlapped edges into engagement with tapped holes in the metal rod 15 which forms a reinforcing core extending through said tubular portion.

In order to clamp the adjacent edges of the perpendicularly related sheets or panels
40 16 - 17 upon the seatings, there is provided an associated clamping member or strip 18 made of metal strip and of channel formation with the top 19 of the channel arcuately contoured to coincide with the curvature of the tubular portion 14 of the strip
45 5.

The clamping strip 18 is positioned in the corner between the sheets or panels
50 16 - 17 and overlies the tubular portion 14, and the opposite sides or flanges 18a - 18b of the channel clamping strip 18 are substantially parallel with the seatings 9 - 10 and form with the latter continuous
55 grooves or channels 20 in which the ends

of the sheets or panels 16 - 17 are seated as viewed in Fig. 2.

In order to tighten the clamping strip 18 to grip the edges of the sheets or panels 16 - 17, screws 21 or the like are passed at spaced distances apart through aligned holes in the clamping strip 18, the overlapped edges of the tubular member 5 and core rod 15, the holes 22 in the latter being tapped to permit the screws 21 being tightened against the clamping strip 18 to force the latter into contact with the edges of the sheets or panels 16 - 17. A bracket 23, or other fixtures, may be positioned between the sheets or panels 16 - 17 and similarly secured by screws 25 passed into the core rod 15.

As illustrated in Fig. 4, the flanges or seatings 26 of the tubular member 27 are disposed in horizontal alignment with the tubular portion 27 substantially semi-circular to permit the connection of panels 23 - 24 arranged in transverse alignment. The clamping strip 28 is correspondingly formed with the arcuate portion 29 to seat against the tubular portion 27 with its flanges 30 oppositely disposed whereby the ends of panels may be clamped between said flanges 30 and seatings 26, a core rod 31 being inserted into the tubular portion to receive the fastening screws 32 as hereinbefore described.

A connection for sheets or panels constructed as described, may be made by folding dies and can be produced much more cheaply than extruded or drawn sections, which latter must necessarily be of heavier section than the former to withstand the stresses incidental to the extruding or drawing process. Moreover, the connection is free of die marks, and when applied to sheets or panels, fits closely upon the latter and has a neat or flush finish and appearance which is very desirable in glass panels.

Having now fully described and ascertained my said invention and the manner in which it is to be performed, I declare that what I claim is:—

1. Means for connecting the ends or edges of adjacent glass or other panels

comprising a tubular member composed of sheet metal and having longitudinal angularly related or aligning seatings or flanges, and an associated clamping member or strip having corresponding flanges to form with each of the first mentioned seatings or flanges, a groove or channel in which the ends of edges of the panels are clamped by the attachment of said member or strip to the tubular member.

2. Means for connecting the ends or edges of adjacent glass or other panels according to Claim 1 and when the tubular member is formed in one piece from a length of metallic strip and having a substantially medial portion of single thickness co-extensive with flat folded sides forming the seatings or flanges from which the sides arcuately extend towards each other in overlapped arrangement to form with the medial portion and between said seatings or flanges, the tubular portion of said member.

3. Means for connecting the ends or edges of adjacent glass or other panels, according to either Claim 1 or Claim 2 and wherein the tubular portion of the tubular member has located therein a solid core, for the purpose herein specified.

4. Means for connecting the ends of edges of adjacent glass or other panels, according to any preceding claim, and wherein the clamping member or strip is formed with a longitudinal arcuate section between its flanges, to seat upon the arcuate overlapped sides of the tubular member, and is secured thereto by screws or the like extending into the solid core.

5. Means for connecting the ends or edges of adjacent glass or other panels, comprising the construction substantially as hereinbefore described with reference to and as illustrated by either Figs. 1 to 3 or Fig. 4 of the accompanying drawings.

Dated this 23rd day of January, 1947.

FRANK DAVID MEADOWS.

By his Patent Attorneys,

EDWD. WATERS & SONS.

Fellows Institute of Patent Attorneys
of Australia.

Witness—L. N. Dobel.

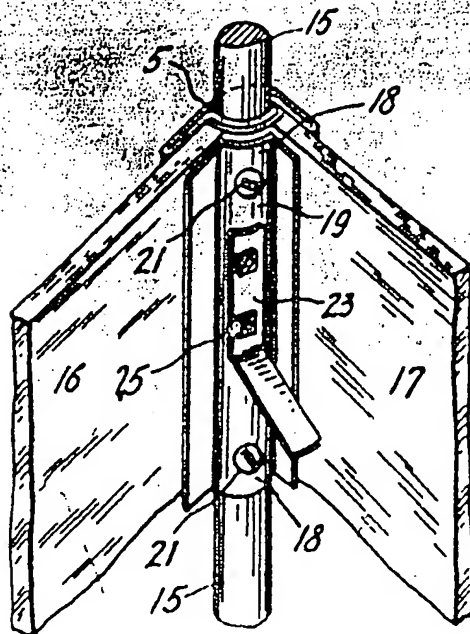


FIG. 1.

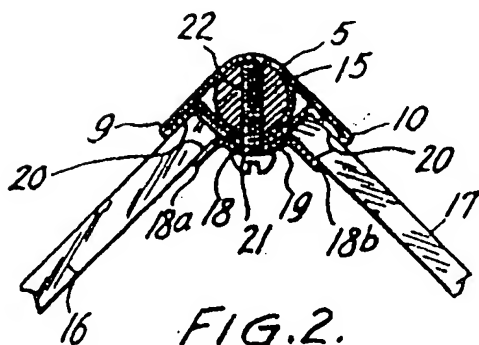


FIG. 2.

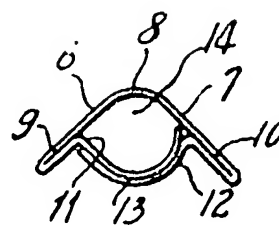


FIG. 3.

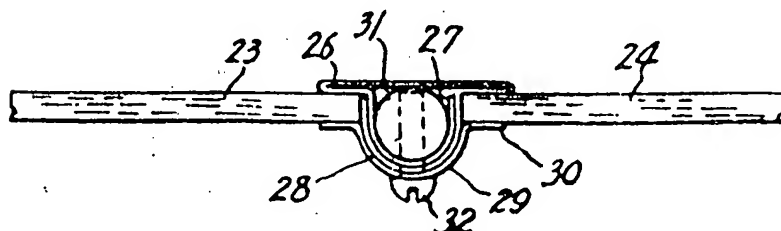


FIG. 4.